

THE BIG LIFT AND BEYOND

The story of saving an historic ship and putting her in a setting worthy
of her past and the crews who served aboard her.







DEDICATION

This document is dedicated to Bill Reader, the founder and leader of the Overfalls Foundation's Dirty Hands Gang. Bill formulated the plan for saving the ship and directed the process through the eleven year implementation period. While the plan and the approach were adjusted from time to time over the implementation period, the objective never changed. It started and finished as save the ship and make her sustainable indefinitely. Also, Bill did not do this singlehandedly. The members of the Dirty Hands Gang who worked tirelessly throughout this period were instrumental in making this happen. Then there were the other Foundation volunteers who worked on a variety of tasks, while less visible than the Dirty Hands Gang, they too were critical to the success of the project. The credit for the success goes to many but the fact remains, without Bill's leadership, success would not have been possible. The Foundation and generations to come are in debt to him for his contribution.

FOREWORD

This document tells the story of the saving of the Lightship Overfalls (LV-118) by the Overfalls Foundation. The main emphasis is on the activity in the years 2006-2010. Given that the period prior to those years was significant, information related to the earlier period is included with enough detail to set the story in context. While the thrust of the project was completed in 2010, there were some aspects which didn't quite come to closure which were completed in 2011. The document was updated with an Epilogue to cover those aspects and reprinted in 2012.

That this story happened is due to the hard work and support of many individuals. The members of the Foundation, all of whom are volunteers, toiled long hours to make this happen. Obviously much of this work was by the ship's volunteer work crew known as the Dirty Hands Gang. Less obvious but equally important are an even greater number of hours devoted by other volunteers whose efforts supported the restoration and kept the Foundation operating, a necessity to sustain the ship. By the end of the year 2011, the total number of volunteer hours invested was in excess of 85,000. The author suppressed an urge to recognize the people who put in these hours individually for fear that the document would become their story as opposed to the ship's story.

Strong support also came from individuals and organizations outside of the Foundation. Governmental assistance at the federal, state, county and city level provided critical financial support as well as help in many other ways to steer the "all-volunteer" organization through the complex web of regulatory procedures that are normally only attempted by highly paid professionals. Also the help from philanthropic foundations and other generous organizations provided a boost when it was needed. Further, the support from individuals and businesses in Lewes made the assistance from others possible because it showed that this was a project that was important to the community. Finally, and also critically important, is the support and assistance coming from people from afar, many of whom may never see the ship but recognize its importance and want to play a role in saving her.

The story is told in chapters as the project progressed through time. Each chapter has a textual portion that describes the activities followed a series of photos to create a visual image. In the text the reader will find keys to the photos appropriate to that text.

In future years, this document may or may not be considered of value. The message the current members of the Foundation are conveying to later members is that this was an enormous task. It was a task that came close to being impossible with a reasonable expenditure of resources because the ship was so far gone. It reached that condition because, over a long period of time, resources for maintenance were not available. While it may be difficult to find adequate resources for an activity as unexciting as maintenance, the alternative is to lose the ship. The ship is now sustainable indefinitely as long as maintenance is a high priority. If the story that this document tells ensures that the ship always receives adequate maintenance, the members of the Foundation who lived through this project will consider the document to have been of great value.

TABLE OF CONTENTS

I. BACKGROUND	6
II. THE BIG LIFT	8
III. FLOAT THE BOAT	12
IV. TOW THE “O”	18
V. FIX THE SHIP	20
VI. BRING HER HOME	27
VII. BUILD THE SLIP	30
VIII. LANDSCAPE THE GROUNDS	33
IX. CELEBRATE THE ACCOMPLISHMENT	36
EPILOGUE	38
ADDENDUMS	42
ACKNOWLEDGEMENTS	47

I. BACKGROUND



The ship as she arrived in Lewes in 1973

In 1973, the U.S. Coast Guard donated a surplus lightship (LV-118) to the Lewes Historical Society (LHS). Soon after her arrival, LHS repainted the lettering on the ship to be OVERFALLS in honor of the lightship station closest to Lewes where lightships had marked the entrance to Delaware Bay from 1898 until 1960.

In 1974, LHS dredged a 50 foot wide slip with no bulkheading for the ship off of the canal at the foot of Shipcarpenter Street. The next 25 years were hard on the ship as maintenance resources went from scarce to nonexistent and the ship eventually deteriorated very badly. Given

the slip had no bulkheading, over the years the sides eroded in with the runoff going into the slip and into the canal ahead of the ship. The slip eventually grew to over 100 feet in width with the ship sitting in seven feet of mud. Despite its condition, the ship was listed in the National Register of Historic Places in 1988 but the condition excluded her from being designated a National Historic Landmark the following year when eight other U.S. lightships were so designated. In 1999, Merrill Kaegi, a LHS member with a strong affection for the ship, put an ad in a local paper inviting anybody with an interest in saving the ship to come to a meeting. From the 24



Ship's port quarter looking forward about 1999.



Starboard bow looking aft.



Port bow looking forward out into the canal.

people who came on that hot morning in August, there was a nucleus that formed the Friends of the Lightship Overfalls. The organization incorporated as the Overfalls Maritime Museum Foundation, a 501 (c) 3 nonprofit, in 2001, and later shortened the name to the Overfalls Foundation.

As the Friends group formed, they were few in number with limited resources but they had heart and knew their mission: Save the Ship. It was clear in this group, as in many that take on such a task, that work was needed on the ship and it had to start soon. What separated this group from many is that it realized it needed more than a bunch of folks to scrape and paint; it needed a comprehensive plan for the work and a strong organization to support and sustain the work.

These two needs were addressed immediately.

The plan included everything needed to preserve the ship and bring her back to her appearance of a lightship in service. Doing this would take financial resources far beyond those available. However, the new organization, with a gigantic project and no track record, did not have sufficient credibility to raise funds in the amount needed. So the plan was front loaded with tasks that would show progress and could be done with volunteer labor, a crew that became known as the Foundation's Dirty Hands Gang. The most expensive task, saving the hull below the waterline, was put off until the earlier tasks built the credibility and momentum to carry it through.

The organization was structured in such a manner that success would depend on overall organizational performance and not be dependent on the performance of one strong individual. Carefully woven into the structure were the administrative functions which, while less visible than the preservation work, were needed to sustain long term results. Also woven into the structure was a culture of turnover of leadership to ensure a supply of fresh ideas and energy.



Above: Some of the early work by what would become the Dirty Hands Gang.



Right: More early work on the ship.

“ THE MISSION...
SAVE THE SHIP.”

II. THE BIG LIFT

As work started on the ship, the Foundation took a two pronged approach. The Dirty Hands Gang began on the outside with the superstructure and deck with the cleaning, preparation and painting needed to preserve the ship and restore her appearance.

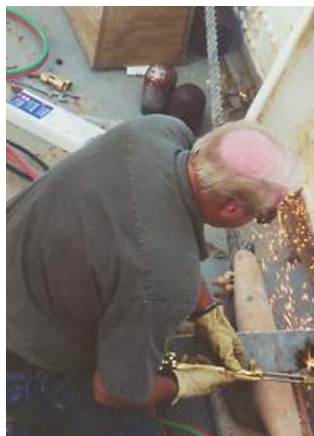
Next they moved below to the living spaces and later on down to the engine rooms. The second prong was to define an approach to preserve the hull below the waterline. Audio testing of the hull conducted by LHS prior to the formation of the Foundation showed that, in places, half of the thickness of the 3/8 inch hull plate had rusted away. The most visibly obvious exterior deterioration was about a four foot band above the mud line and below the high water line which was wet and dry with saltwater two times a day with the tide. While no testing had been done recently, it was obvious that the hull plate would continue to rust away until there were major holes, possibly resulting in failure of the entire project and loss of the ship. This possibility created a sense of urgency that drove the



Working in the forepeak.

Foundation to move the project with all deliberate speed. Work started on that second prong in 1999 with a marine surveyor commissioned to give a general assessment of the ship's condition. This included strengths and weaknesses which led to what were the possibilities for the ship. From the surveyor, discussions with the U.S. Coast Guard as well as other knowledgeable people in the marine industry, the Foundation concluded that all preservation and repair work had to be done on site. All indications were that it would be impossible to obtain a permit from the USCG to tow the ship out of Lewes due to the possibility that the ship might sink and block the waterway.

Based on the limitation that all work would have to be done at the current site in Lewes, the Foundation commissioned the engineering firm, Gredell Associates, to define a feasible approach for moving forward. Gredell defined an approach



Left: A Dirty Hands Gang member in love with his work.

Right: It wasn't all scraping and painting. This was cutting a steel patch.

“THE PROBLEM: THE SHIP CAN'T BE TOWED.”



Rep. Mike Castle delivers the SAT check.

of lifting the ship out of the saltwater and mud into a permanent cradle just to the east of her existing slip.¹ In the next several years this approach and several others were discussed with various parties, always with the caveat that all work would be done on site and usually the ship would remain out of the water.

An exception to displaying the ship out of the water came when officials from the Foundation visited Delaware's tall ship, *Kalmar Nyckel*, to discuss the problem with Capt. David Hiott IV.^{4,5} He refused to accept that the ship should be out of the water saying that ships out of the water present more problems than those floating, and, while towing may be an issue, it was solvable. Gradually other floating options were discussed but these were always with the work being done on site by means such as building a dry dock or a

marine railway. This was a frustrating period for the Foundation because, despite having numerous discussions, there were insufficient funds to move forward so there was little concrete action on this part of the project.

The problems mentioned above aside, in this



The Foundation's director for restoration meets with Capt. Hiott aboard the *Kalmar Nyckel* in Lewes.

¹ The Gredell plan for the Big Lift. See Addendum.



The Overfalls contingent aboard Kalmar Nyckel.

period the Foundation established credibility both in the local community and the state as a whole.

“SHIPS ARE SUPPOSED TO FLOAT!”

CAPT. DAVID W. HIOTT IV

The credibility came from the visible preservation progress on both the exterior and interior of the ship, outstanding social events, significant outreach initiatives and publicly announcing ambitious goals then meeting them. Further, right from the start, the ship was open for public tours on a regular schedule.

With the credibility came increasing ability

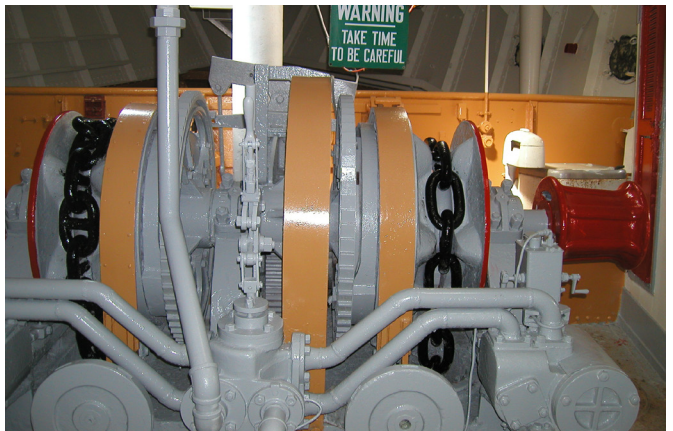


Anchor windlass after many volunteer hours invested to prep for painting.



Foundation's Opening Party, May 2006.

to raise the funds needed to address the more expensive task of preserving the hull. Fund raising success, like success on all of the other tasks, started at modest levels and grew. The first large grant was from Delaware's Community Redevelopment Program for \$50,000 which the Foundation was required to match with non-State funds on a 60-40 basis. The growth peaked in the fall of 2005 when the Foundation received a \$275,000 Save America's Treasures (SAT) grant followed quickly by \$200,000 of Transportation Enhancement (TE) funds. The SAT program is administered by the National Park Service and the Foundation was required to match these funds on a 50-50 basis with non-Federal funds. The TE funds are a provision of the Federal Highway program, made up of a combination of State and



Anchor windlass after painting.



Tours were for all ages, several photos include a local Cub Scout Den and others. All tours are tailored to the individual interest of the visitor(s).

Federal funds, and is administered by the State highway department (DelDOT). To facilitate the match with the SAT grant, DelDOT arranged that all of the Foundation's TE funds came from the State's contribution to the program. More successes followed these with other major grants from philanthropic foundations and selling naming opportunities for various components on the ship. The naming opportunities program

raised about \$200,000 selling naming rights to an array of components from rivets for \$250 to the beacon light for \$100,000. The decision to sell naming opportunities on the ship was coupled with a decision that no plaques or markings that would detract from the historic nature of the vessel would be placed aboard. The recognition of the purchasers of the naming opportunities would be made in an appropriate place on the grounds.

III. FLOAT THE BOAT

In late 2005, the Foundation established a Restoration Management Committee under the direction of the Chair for Restoration. With resources available from the major grants and other fund raising successes, the committee decided that a full engineering study and design was needed to define a clear path forward for the renovation of the ship. The early part of 2006 was spent exploring the possibility of collaborating on this effort with the engineering staff at DelDOT. This seemed especially appropriate since the TE funds had come through DelDOT and they had an oversight responsibility plus the agency would have an interest in how the funds were used. After a couple of false starts, it became obvious that the agency's workload dictated that

they would not be able to provide the resources needed to operate the project. While DelDOT was not able to provide engineering support themselves, they recommended an approach of acquiring a single firm for a "design and build". This approach was extremely attractive as one firm would have total responsibility to develop the design and implement it. The Foundation, however, was forced to reject this approach because funds (probably in excess of \$1 million) to complete the project were not available and the prospect of securing those funds was uncertain. In the summer of 2006, the Foundation began working with the City of Lewes which would provide administrative support for a competitive procurement to acquire the services of an



Top: Before and after painting the hull red (black bottom) before and after.
Bottom: Painting the hull from platforms and aerial lift.



Moving in Sylvester's Bait Shack.



The new Ship's Store in place.

engineering firm to study the problem and develop a design. Duffield Associates submitted the winning study and design proposal of the four received and a contract was awarded early in 2007.

Other than the prospect of soon having the services of an engineering firm on the project, 2006 was a slow and disappointing year as far as progress on the ship. As a morale booster for the Foundation and the community as a whole, the Foundation began the project of repainting the hull red. This was an extremely slow and tedious process until Cassidy Painting, Inc. lent the Foundation an aerial lift with a 60 foot boom. Added to that, the Foundation acquired a junk pontoon boat which was turned into a work float capable of carrying a scaffold. The hull was given a thorough wire brushing, primed where needed and then two coats of bright red. What had been slow and tedious became fast and efficient and the job was soon done. A second project that gave an added boost to morale was the acquisition and renovation of Sylvester's Bait Shack. This building was placed at the foot of the gangway and became the Foundation's new Ship's Store.

In the study phase of the engineering work, Duffield Associates examined a variety of options for saving the ship and projected a cost for each. These included dry land cradles and various floating options. Of those put forth, the committee chose the floating option and recommended it to the Foundation's Board of Directors. The Duffield study showed the floating option with the hull repair being done in a shipyard as being superior from every aspect: cost, risk to the ship, aesthetically most pleasing, environmental impact and use of the Foundation's grounds. The Board accepted the recommendation. The floating option entailed:

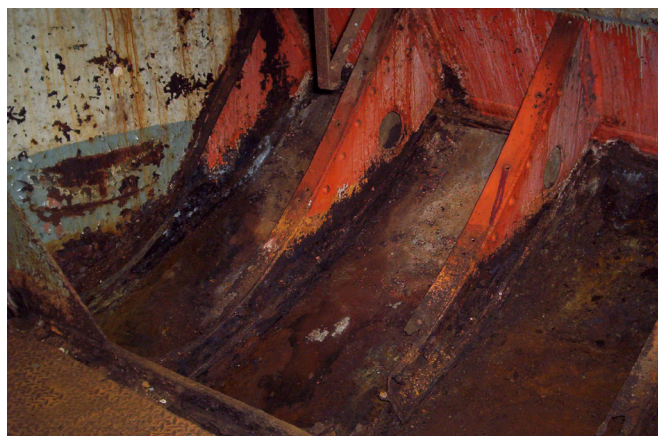
- Acquisition of all applicable permits,
- Dredging the mud out from around the ship to get her floating,
- Towing her to a shipyard,
- Lifting her out of the water and repairing her hull,
- Constructing a permanent, floating berth with bulkheading at the site,
- Returning the ship to the slip, and
- Periodically returning the ship to the shipyard for maintenance to the hull.

The floating option was not considered by the Foundation previously as acquisition of a

FLOATING, SUPERIOR IN EVERY ASPECT."

tow permit was not possible. However, a new interpretation on the criteria for issuance of a towing permit by the USCG now made it possible. Another key ingredient required to make the option viable was a shipyard that was capable of doing the work at a cost within the Foundation's budget. The shipyard identified was Dorchester Shipyard on the Maurice River in New Jersey, just 40 miles by water from Lewes. This yard had a 600 ton marine railway under renovation that was due to be completed by summer of 2007. Duffield detailed the cost and project components on a Gantt Chart that estimated the total cost to be \$1.2 million.²

The key to the floating option was that the ship was in satisfactory condition to tow in open water, a condition that had to be determined by a competent marine surveyor. For this task, the Foundation secured the services of William J. Campbell, a registered surveyor whose competence is recognized by the USCG. Mr. Campbell visited the ship on several occasions with suggestions of things that would need to be done before the ship could be towed. One of his concerns was leakage around some of the rivets where the shanks had obviously corroded losing their strength and watertight integrity. For a temporary fix, he suggested covering the rivet heads with a waterproof epoxy. Another concern was the rusted out frames in the forward hold.⁶ As a temporary fix, the Foundation designed and installed timber bracing to compensate for the strength lost by the missing frames. These and other corrections were all completed to his satisfaction by the Foundation. Throughout the process, Mr. Campbell stressed that the critical test would be his inspection after the ship was floating.



Rusted out frames in the forward hold.

In 2007, work continued on the ship as it had in previous years. While the threat of the hull rusting through was always there, the Foundation had no options available other than to work the Duffield plan and hope that the hull held. That spring, a hole about two inches in diameter appeared two feet above the mud line; from the inside the hole was in the after fuel tank on the port side. While the Foundation was assembling the resources to patch the hole, another hole, about eight inches wide and four inches high, appeared down right at the mud line ten feet aft of the first. On the inside, this hole was in the forward end of the shaft alley. The preferred fix for both holes was to weld a piece of ¼ inch steel plate on the outside. The actual work was complicated by two factors. First, the existing hull plate was so thin that the welder was blowing new holes in the hull as he tried to patch the old ones. Second, the after hole was so low that the welder couldn't get access to weld on the lower portion of the patch. The first problem was solved by eventually finding a hull location with steel thick enough to accept the weld. The second was

“ARE WE LOSING THE HULL?”

² The Duffield schedule showing the tasks in the project and costs over time. See Addendum.



Left: Hole in the hull through to the shaft alley.
Right: The same hole looking through a scope.

solved by building a temporary coffer dam (a big plywood box around the hole on the outside) so that mud could be removed better exposing the bottom of the patch and then using SplashZone, a waterproof epoxy, in lieu of welding the bottom. While both repairs held and were successful, the incident put the Foundation on notice that a permanent repair went from urgent to most urgent.

2007 WAS A SLOW YEAR

As 2007 started, the outlook for using the marine railway at Dorchester Shipyard went from bleak to impossible as the repair on the railway had stopped and it was uncertain when (or if) the repair would be completed. The Foundation aggressively started to look for other shipyards. The search covered all of Delaware Bay (and River), Chesapeake Bay to Norfolk and the coast of New Jersey. Most of the contacts were dead ends as most facilities were either too large (economically out of reach of the Foundation) or too small (unable to handle a ship as large as the Overfalls). There were a couple of shipyards which took an interest in the project and looked promising but, for various reasons they eventually became dead ends as well. That summer the Foundation issued a formal request for proposals

which generated no responsive proposals.

Despite being a slow year the Foundation explored options and made some key technical decisions on the approach to the repair. The initial approach was, once the ship was out of the water, to strip the old hull plates below the waterline and install new plates. This would have made a very good repair but professional estimates for that approach started at \$2 million and went up depending on possible complications encountered when the old hull came off. As a practical matter, the cost was far more than the Foundation might reasonably expect to raise making that approach an impossibility for implementation. From that, the Foundation's thinking evolved to an approach of doubling over the old with new hull plates. While not as good a repair, cost estimates put this approach at \$3-400,000. As it was the only way forward, this was the approach the Foundation selected. To ensure as good a job as possible, the Foundation sought the advice of experts as to what techniques might extend the life of such a repair. The most significant came from Dr. Stephen Dexter, a world renown expert on corrosion of metal in saltwater at the University of Delaware's College of Marine Studies, who recommended the following multi-step process:

1. Thoroughly clean and paint the old hull plates,
2. Clean and paint both sides of the new doubler plates,
3. Install the new plates, and
4. Apply paint to the new plates to maximize their life in the saltwater.

The Foundation took that advice as the approach that would be used for the repair.

A FORMAL PRICE QUOTE FROM COLONNA

In the fall of 2007, the request for proposals from shipyards was reissued with more extensive newspaper publicity, and, as a result, contact was made with Colonna Shipyard in Norfolk. In April of 2008, Norman Drake and Frank Rife from Colonna visited the ship. Two weeks later, Mr. Drake sent the Foundation a letter with detail pricing for installing new hull plates and the other associated tasks. Despite having numerous conversations with many individuals, this was the first formal quote the Foundation had received. Shortly thereafter representatives from the Foundation visited Colonna's facility to assess their capability and competence and found them more than acceptable in all respects. Now having a repair facility that was ready and willing to do the work, the Foundation moved forward with the following tasks that would lead to the ship going to Colonna in the fall of 2008:

- Verify with Wilmington Tug, who had committed to providing shorter pro bono towing service, that they would be willing to tow as far as Norfolk,
- Arrange with FasMart/Shore Stop for a deep discount on the tug's diesel fuel,

- Receive a commitment from Claymont Steel to donate the 5/16 in steel plate needed to replating the hull,
- Negotiate a permit change that would allow the Foundation to backfill all of the area around the slip out to the projected bulkhead,
- Schedule the visits needed by the surveyor to ensure that the ship was safe to tow,
- Dredge in the slip and out to the canal so that the ship would be floating and mobile,
- Obtain the permits for towing through three separate districts from the USCG,
- Strengthen the timber bracing in the forward hold to further stiffen the hull where several frames were rusted out, and
- Select and train the ten volunteer riding crew in the safety and damage control measures that may be needed during the tow.

With events coming together for the fall of 2008, the Foundation arranged for dredging to start as soon as the environmental dredging window opened on September first. After a long period of negotiations, the permitting allowed for backfilling out to the bulkhead on all sides of the slip. This required finding a site to mitigate the 6032 square feet of wetlands that would be



The mud is scooped up with the excavator.



Setting up the pipe for the hydraulic dredge.



Hydraulic dredging the area from the slip to the channel in the canal.



Mechanically dredging the mud out from around the ship in the slip.



The mud goes into the truck for transport to the USACE spoil site on the other side of the canal.

filled; the City provided the mitigation site near the University of Delaware's College of Marine Studies. Evelyn Maurmeyer, with Coastal & Estuarine Research, Inc., arranged all of the permitting details. The permit allowed for the immediate backfilling and that the new wetlands would have to be created within a three years of when the backfilling was actually done (spring of 2010). The Foundation plans to create that wetland area in the spring of 2011.

“WE'RE MOVING MUD!”

The immediate plan was that Ray Nornes Dredging would hydraulically dredge the area from the front of the slip out to the channel in the canal. Sussex Conservation District, financially supported by Legislative Representative Joe Booth and Senator Gary Simpson, would mechanically dredge the interior of the slip around the ship. The mechanical dredging would be done with an excavator with a 60 foot boom. This piece of equipment had an added advantage that it would be able to push and pull the ship around in the slip using its bucket. All spoils from both types of dredging would go to the U.S. Army Corps of Engineers spoil site on the far side of the canal.

In late August, Mr. Nornes staged his

equipment on site and the hydraulic dredging commenced on September 2nd. Sussex Conservation began the mechanical dredging on September 8th and the ship floated on September 11th. William Campbell, the marine surveyor, did his final inspection of the ship on September 12th and found the ship seaworthy for the tow to Norfolk.

THE BELL OF THE BALL

Unrelated to the project, the Foundation had scheduled a 70th birthday party for the ship on the evening of September 12th. Also unrelated to the project, Al & Joan Volpe, of Scituate, Massachusetts, sent a birthday present to be opened at the party, the ship's original bell missing for more than 35 years.¹¹ The Bell was rung and needless to say, the 200 attendees at the party had much to celebrate.



The ship's original bell, a gift from Al & Joan Volpe of Scituate, MA.

IV. TOW THE "O"

With all of the preparations completed, the ship was scheduled to leave Lewes at 7:30 on the morning of October 14th. The riding crew arrived before dawn to make final preparations and shortly before the departure time The Rev. Jeffery Ross, of Saint Peters Episcopal Church, came aboard to bless the ship, crew and voyage. The blustery weather of the previous several days had calmed and, right on schedule, the tug "Carey" and launch "Big Stone Pride" eased the ship out into the canal and guided her through the tight turns to clear the Roosevelt Inlet. Hick Rowland, owner of Wilmington Tug, coordinated the operation from the Overfalls and was aboard until the ship was well clear of the Inlet. This was a day that the community of Lewes had anticipated for a long time and WJMD, a local radio station, estimated that 2000 people were on hand along the canal to see the ship off.

Given the ship had not floated in many years and the hull had far less than its original strength, it was uncertain what affect the strains of the trip would have on her. If there were problems, to ensure that early correction would be possible,



The Rev. Jeffery Ross blessing the ship, crew and voyage.



The ship clearing the slip pushed by the tug Carey.

two hands constantly patrolled the ship looking for leaks or other signs of trouble. Despite all of the safety and damage control procedures and training it was an uneventful trip. As an example the crew had four (two electric and two gas driven) large capacity bilge pumps aboard which were never needed. The only leak was above the waterline which was taking on splash; it was quickly fixed with waterproof epoxy.

A GOOD WEATHER WINDOW

Two days later, early on the morning of October 16th the ship arrived safe and sound at Colonna Shipyard in Norfolk. The good weather that saw the departure from Lewes held throughout the entire voyage making the preparations for heavy weather not needed. The only rough water resulted from the wakes of passing ships. The day after arrival the weather turned foul with heavy winds and intermittent rain for the next two weeks.

The ship was originally scheduled for dry dock on October 19th, but, because of a high priority

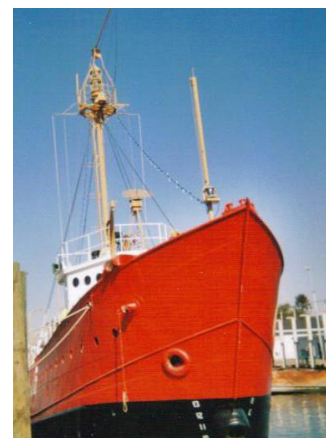
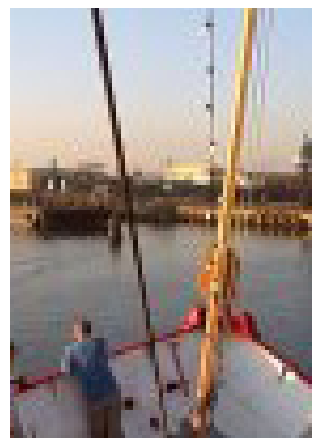


The ship leaving Lewes with a large segment of the population watching.

job and the Foundation's wish that the ship not come back to Lewes until the spring of 2009, the date was slipped. With space tight in Colonna's main yard, they moved the ship to their "yacht" yard. The move entailed going under a 65 foot fixed bridge which was a little short of the ship's aerial draft. The upper part of the mast, above the light, hit the bridge and was bent down. Also, one of the large china insulators on the backstay was shattered in the collision. For a repair on the mast, the Foundation agreed to a slight charge to have the top mast set in a sleeve so that it could be easily removed for transit under lower bridges in the future. This was one of the few extra repairs that the Foundation would direct Colonna to make before the ship would leave their yard. As additional tasks would be identified, Colonna added them to the spreadsheet work list with an associated cost prior to initiation of the work.

As the ship was afloat, the starboard list that

she had while stuck in the mud prevailed. Some time after arrival at the shipyard, the Colonna staff noticed that the list was more pronounced than when the ship arrived at their facility. A close examination showed that the #4 fuel tank on the starboard side was flooded as a result of a new hole opening up due to corrosion. To right the ship, they flooded a tank on the port side.



Left: The ship arriving at Colonna Shipyard.

Right: The ship at the yacht yard with the upper portion of the mast bent down.

V. FIX THE SHIP

On December 3, 2008, the ship went into one of Colonna's floating dry docks and was lifted out of the water. This was the first time out of the water for the ship since she left the USCG yards at Curtis Bay, MD in 1973. In retrospect, it was surprising that the hull had held up as well as it had, especially considering that two major holes had opened up almost two years previously with no more until the ship arrived in Norfolk. Further, the level of marine growth was less than one might expect considering the extended period of time with no maintenance to the hull below the waterline. However, it was obvious that, had the shipyard date been put off another year, the holes in the ship would have been more in number and severity. This would have significantly increased the complexity and cost of the repair.

“THE SHIP HAD REACHED A TIPPING POINT.”

Cleaning the hull with a 40,000 PSI pressure washer started as soon as she was in the dry dock. As the hull started to come clean it was easier to



Out of the water for the first time in over 35 years.

assess its condition and what needed to be done. Immediately apparent, but no longer a problem, was water leaking from the hole that had opened up on the starboard side while the ship was in the shipyard. There had been speculation that this hole was created at the yard by a work boat pushing the ship into the dock; this was not the case because there was no dent and the problem was obviously just corroded steel plate. While the high pressure washer took off the marine growth and rust; in many areas it also took off rivet heads and opened up countless holes in the old hull plating. The fragile, thin skin did not come as a surprise to members of the Foundation. When



Heavy marine growth on the bottom.



Washing the hull with 40,000 PSI pressure.



Water draining from the hole in the #4 fuel tank on the starboard side.

viewing the hull, the Foundation's assessment was that the ship had reached a tipping point in that, if the repair had been delayed another year, the ship would have been lost. This is because, when projecting the impact of another year's corrosion, there would have been multiple holes through the hull plate in each of the ship's 25 tanks and other compartments along the waterline, and the old hull plate would have been too thin to accept welded patches. When considering an equation of the hull's condition together with the Foundation's resources and ability to raise funds, a repair in the fall of 2009 would not have been possible. The fact that there had been a potential disaster and that it had been avoided was not an issue for the past but rather a lesson to carry into the future.

The ship has bilge keels to reduce her roll in a seaway; they are down at the turn of the bilge on both sides. On the port side, the bilge keel was badly bent, probably as a result of a grounding sometime during her service life. Also, on the port side the patch applied to the large hole through to the shaft alley and the smaller patch applied to the hole in the fuel tank were both holding well.

Given the ship was to remain floating with the main engine non-operable, the Foundation determined that the prop should be removed and be used on the grounds as a display. Early in the dry dock process, Colonna removed the prop and placed it on a pallet for shipment to Lewes. An original idea was to cut off the protruding shaft and weld a steel plate over the end eliminating a future possibility for a leak. While difficult to conceive at the time the ship was in the yards, it was possible that, at a later time, the Foundation would make the main engine operational. If that happened, the cut off shaft would have to be removed, a new shaft fabricated and installed. The cost for that process could be sufficiently high



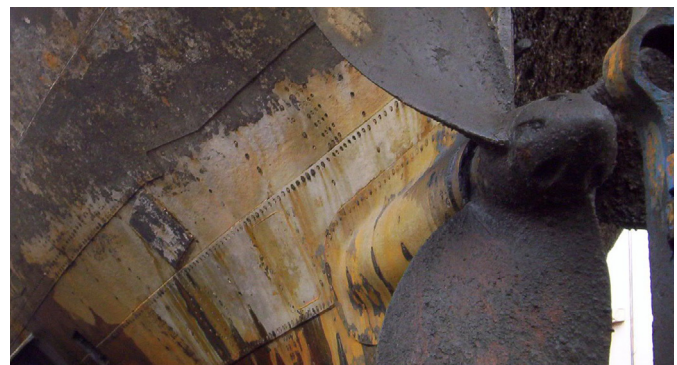
Hole in #4 fuel tank after cleaning and painting. (Note other holes and rivets)



Photo showing missing rivet heads, entire rivets, and holes in the hull plate. Also shows the patch OMMF applied to stop the leak in after fuel tank on the port side.



Damaged bilge keel on the port side.



Patch on the hole through to the shaft alley on the port side, all OMMF applied patches were removed by Colonna.



The propeller shaft after the propeller has been removed.



The can installed over the propeller shaft.



The propeller on a pallet being prepared for shipment to Lewes.

that making the engine operational would not be possible. To save the possibility of that option, the Foundation asked Colonna to fabricate a can to cover the protruding shaft that would be filled with a tallow preservative. Therefore, if the time to make the engine operational ever comes, the can will be removed and the prop reinstalled.

“ WE DIDN'T CUT OFF THE OPTION...”

Shortly after Norman Drake, from Colonna, visited the ship in April of 2008, he prepared an MS-EXCEL spreadsheet with all of the tasks related to the repair and the associated cost for each. As the project evolved, the spreadsheet evolved accordingly with new tasks being added and some of the original ones being deleted. Then, as the project progressed, he would indicate the percent of completion of each task and bill the Foundation accordingly. The price for each task was fixed, however, and did not vary after Colonna and the Foundation had agreed to it regardless of the time and materials that it took to complete. A copy of the final spreadsheet is included with the Addendum.³ Because of the age of the ship and the lack of ability to completely

inspect her in advance, new tasks had to be added as the project progressed. The Foundation, with a serious shortage of funds, felt a need to keep a tight rein on these new tasks and their associated costs. On the other hand, it was imperative that the project be done in a manner that all tasks necessary to give the repair a long life had to be done. An example of a new task that was added after the ship was out of the water and close inspection of the under body was possible was a repair where the old hull plates had been attached to the keel bar with rivets which had disintegrated allowing seawater to intrude. In this case, Mr. Drake sketched out the problem and defined two possible repair options. His drawing, which details the repair options, is included with the Addendum.⁴ The Foundation selected Option 2 which was then added to the spreadsheet as Line 13.

THE LIST WON'T LAST

As the ship sat in her slip in the mud for many years, she had a distinct starboard list. There were many theories for the cause of the list, one for each person offering an opinion. The list persisted in the shipyard, still there was no concrete reason. The Foundation concluded that the best approach to correcting the list was to trim the ship with water in the tanks. Given there are 20 tanks (10

³ Colonna spreadsheet with tasks and associated costs. See Addendum.

⁴ Options for correcting the keel bar problem. See Addendum.

on a side) and they run from well forward to well aft, by flooding selected tanks, the ship could be trimmed port & starboard and fore & aft. Then, if there were any changes over the years that affected the trim, it could easily be corrected by adjusting the water levels in the tanks. The decision to trim the ship with water impacted several decisions related to the yard work:

- All of the tanks were in poor condition with rust and peeling paint, so the Foundation added to the task list (Task #10) cleaning and painting all of the tanks.
- Given there were small holes in the old hull plate that would allow ballast water to migrate out of any given tank to the area between the old and new hull plates, the Foundation added Task #11 to coat the inside of the old hull plate with an epoxy to make the tanks watertight.
- With the decision to do the final trim on the ship back in Lewes in her slip, it was impossible to know where to paint the waterline while the ship was in the shipyard. The Foundation decided to take the black bottom paint well up into the red topside paint and then strike the actual waterline in the slip in Lewes by extending the red topside paint down as far as appropriate. This



Left: Fuel tank prior to cleaning and painting.



Right: Fuel tank after cleaning and painting.



Old hull plate cleaned, painted and ready for new plates.

can be done with relative ease from a float in the slip.

A major cost element in the repair was to be the new 5/16 inch steel plate that would double over the old plate. There was a possibility that the Foundation might receive a donation of new steel plate so Colonna bid the job two ways: one, they provide the steel and, the other, the Foundation provides the steel. The difference was a little over \$52,000. Claymont Steel in Claymont, Delaware did donate all of the steel that was needed saving the Foundation the \$52,000, another example of the generous support from the community to save the ship.

After the ship was thoroughly power washed she was given a coat of red epoxy paint.¹² The steel plates to be installed were cut to size, bent to rough shape, sandblasted and painted with the red epoxy paint on both sides. The plates were then hoisted into place (using temporary eyes welded to the hull) and tack welded. Then with chain “come-alongs” and large blocks of wood to apply pressure, they were bent to the final shape with welds to secure the plates as they came into position. With the pressure they could apply, Colonna succeeded in making the new hull plates very closely follow the form of the old ones maintaining the original shape of the



New hull plate being lifted into place



New hull plate being bent into shape for welding.



Making a concave bend for welding.



New steel plates installed, primed and ready for the first coat of paint.

hull remarkably well. Small holes were cut in the new plate to allow welding through to strengthen members on the inside of the hull. When each plate was fully installed the temporary eyes were cut off, the small holes were patched, 40 sets of stainless steel studs were welded to the hull and the places burned by welding in the process were repainted. In this manner, the entire hull from the keel to the waterline was double plated with each plate lapping over the previously installed plate. Then the hull was given a second coat of paint with the same specifications but this time a buff color. A final coat of the same paint but in black was applied making three coats in all.^{19,20,21} Then, 40 sacrificial zincs to guard against galvanic corrosion of the hull plate were installed on the stainless steel studs.

When the ship was backed into her original slip in 1974, an anchor was dropped in the canal to serve as part of her mooring gear. This anchor was retrieved in 2005 by the crew from George & Lynch who were working on the new Canalfront Park. The anchor was small for a lightship, possibly it had been used for the associated station buoy but it was in good condition and the Foundation saved it to be placed up the hawse hole in the same manner that a lightship would carry her main anchor when she was either underway or in port. As part of the scope of work, Colonna rigged this anchor as described. Placing this anchor in the hawse hole allowed the main anchor to stay as an artifact on the grounds and the auxiliary anchor to stay in its place inverted on the rail.

On January 16th all of the hull work was completed and it was time to test for leaks. To do this it was necessary to fleet the ship by flooding the dry dock and let her float. Not surprisingly she leaked moderately. When dry dock space



The first coat of paint on the new steel.



The second coat of paint on the new steel.



Final coat of paint and zincs installed.

became available (February 16th) she came back out of the water for further evaluation. There were minor problems with small voids in the welding but the major problem was the repair on the keel bar mentioned earlier. The problem was that the keel bar was multiple pieces butted together and water was leaking up through the butt joints. Further examination showed that the keel bar repair the Foundation had selected (Option #2, on the repair drawing and Line #13 on the spread sheet), in addition to not addressing the leaking butt joints, would be inadequate for a long term repair. At this point the Foundation agreed to the Option #1 repair which became Line #18 on the spread sheet at a negotiated price of \$8374. This channel extended from the hawse hole up forward all along the keel and up to the propeller shaft back aft. While this covered considerable area where there were no problems, the Foundation felt

that it would be good insurance against problems in the future.

With the ship out of the water, the Foundation added a new task to remove the chain ballast and cast iron pigs that were in the after end of the shaft alley, then clean and paint the shaft alley. This was added to the spread sheet as Line #17. On March 6th, the ship went back in the water and she was dry.

In the course of the yard work, various products were used that may be required again for ongoing maintenance in the future. Those products, together with their specifications are:

SACRIFICIAL ZINC ANODES

The zincs are 23# 12" L x 6 H" with two bolt holes on 6" centers attached to the hull with stainless steel nuts and lock washers. The zincs were



Installing the channel on the keel bar.



New keel bar channel runs the length of the ship.

purchased from Sherwin Williams (their code ZHC-23) at \$36.95 each.

PAINT

The paint was supplied by Andersen Marine Coatings; 3425 High Street; Portsmouth, VA 23707; (757) 397-0738. The contact was Jim Setzer, cell phone (757) 286-6769. The paint was an epoxy manufactured by Hemple with a product name of Hempadur 17630.

TANK SHIPSIDE COATING

On top of the Hempadur 17630, a two-part, moisture-insensitive epoxy was placed on the shipside inside the ten tanks on each side to seal the holes in the old hull plate. The product is Splash Zone FX-764 available from Fox Industries; 3100 Falls Cliff Road; Baltimore, MD 21211; (410) 243-8856.



The ship going back in the water for the final time.

VI. BRING HER HOME

The original hope was to have adequate funds to complete the project prior to taking the ship to the shipyard. That would be sufficient funding to accomplish all of the tasks on the Duffield generated budget estimate work plan, an amount of \$1.2 million. In the last couple of years the Foundation had had successful fund raising efforts including receiving a \$100,000 grant from the Longwood Foundation as well as several significant grants for smaller amounts. Further, the Foundation initiated a campaign of selling naming opportunities on the ship for amounts ranging from \$100,000 for the beacon light to \$250 for rivets. With those funds in hand the Foundation decided to go ahead with the ship repair in hopes that, while the ship was being repaired, the funds to build the slip would



Passing the Harbor of Refuge Light on May 31, 2009.

materialize. While the ship was in Norfolk every conceivable avenue for fund raising, governmental (federal, state & local), private foundations, businesses and private individuals as well as bank loans was explored. Hard economic times in late 2008 yielded meager results leaving a deficit of over \$300,000 of the amount needed to build the slip. In February of 2009, the Foundation made the decision to bring the ship home to the old slip. This slip, often referred to as “the muddy hole”, would have to do until some undetermined time when the remaining funds were available.

“THE FUNDS TO FINISH THE PROJECT!”

On March 13, 2009, the Foundation was contacted by a representative from DelDOT and informed that the federal stimulus money (American Recovery and Reinvestment Act) recipient list, soon to be released, contained \$400,000 to build the slip. The Foundation knew that this would not be sufficient funds to build



Homeward bound on the ocean side.



The Lyle guns fired salutes.

the slip but, when combined with funds on hand, it would be adequate. Inclusion on the list was contingent on the Foundation's ability to advertise a competitive procurement to acquire a contractor prior to June 15th. While this was very good news and the Foundation was able to act in the allotted time, it did create some complications.

Given that plans to build the slip had been put off indefinitely, the Foundation had made plans to bring the ship home on May 5th. With the stimulus funds, the hope was for a projected start date for slip construction in July making an alternate site for the ship a necessity. Places in Lewes capable of housing a ship the size of the Overfalls are few and ones that would be available over the entire summer were nonexistent. One alternative was to leave her in Colonna's yard. This had the disadvantages that Colonna would charge (even at a half price rate it would be \$15,000 for the summer) and the Foundation would not have ready access to the

ship to clean up after the recent yard work. Then the project took another twist as the procurement process for use of the stimulus funds proved longer than originally thought, now with an earliest start date for slip construction in September. Further, the Foundation had the option of delaying the start date even more making construction in the late fall when an alternate site for the ship would not be a problem. With that development the Foundation made plans to bring the ship home immediately.

REV. ROSS' BLESSING FOR THE ROUND TRIP

At 7:30 am on May 30, 2009, the Tina, a Wilmington Tug ocean-going tug, backed the ship into the Elizabeth River for the tow home. By the time the ship reached the James River, the weather conditions were perfect with moderate southwest breezes and Tina switched from towing on the hip to towing ahead. With the good weather, the



The homecoming to a happy crowd.

decision to take the outside route was confirmed and the procession steamed out through the Virginia Capes and headed north toward home. The expected ETA in Delaware Bay was 1:30 pm on May 31st. However, in the perfect weather conditions and no unexpected time consuming issues, progress was faster than expected and by 8:00 pm on the 30th, the ship was off of Chincoteague. Even though Tina slowed way down, it was necessary to just kill time to avoid arriving too early. The ship passed Cape Henlopen and arrived behind the Harbor of Refuge breakwater at 1:30 pm as scheduled. There the ship was shifted from the Tina to the smaller tug Carey for entrance in to the canal. Putting the ship in the slip was a reverse of the operation the previous October with Hick Rowland, owner of Wilmington Tug, aboard the Overfalls directing the tight maneuvers of the Carey and the launch Big Stone Pride. By 3:00 pm, with no incident whatsoever, the ship was in the slip and the mooring lines were being made fast.

While the trip was without incident, the

reception in Lewes was quite the opposite. The reception started well off of Cape Henlopen with a stream of local citizens coming out in small boats to welcome the Overfalls home. Then, there was a good sized group on the breakwater at Roosevelt Inlet. Coming into the canal, people were on both sides as well as cars on Pilottown Road blowing their horns. Coming closer to the slip, Richard Perez the owner of Lewes Body Works, had set up seven Lyle guns behind the Historical Society's lifesaving station boat house and was firing salutes. At the slip, a large crowd had already started a welcome home party. There was no official estimate of crowd size but it easily exceeded the 2000 that WJMD had said were on hand to see the ship off at 7:30 in the morning the previous October. It was clearly a Lewes style welcome!

With the ship back in her slip attending to the administrative details of the tow home started. The most significant of these was to compensate Wilmington Tug for the diesel fuel for the tow. When Hick Rowland was contacted to see how much fuel was used, his response was, "there is no charge because the tug was in Norfolk for maintenance and we had to bring her home anyway." This was not without extra cost to Wilmington Tug because Tina had to wait in Norfolk two extra days for the Overfalls and their trip home was slower and fuel usage greater because they were towing rather than going alone. This was another case of generous support that folks have shown the project to save the Lightship Overfalls for future generations.

VII. BUILD THE SLIP

The procurement to build the slip was a long and tedious process. The stimulus funds came from the Federal government but were administered through DelDOT so DelDOT's procurement procedures applied. Then, because DelDOT could not transfer funds directly to the Foundation, the funds had to come through the City of Lewes with the City actually being the contracting organization. Further, there were additional Federal constraints put on the process that were over and above normal DelDOT procedures. As an example the Duffield engineering contract, even though no stimulus funds were used to pay for it, would be subject to Federal audit because it produced the design for the slip.

The invitation to bid was finally released in December with a bid opening on January 21,

2010. One element of the construction was actually simplified during the pre-bid meeting, all of the prospective contractors agreed that the slip could be built with the ship in place, an alternate site would not be needed.

At the opening, six firms had submitted bids as follows:

1. Kuhn Construction	\$550,000.00
2. Mumford & Miller	\$577,375.05
3. JJIF, Inc	\$590,541.50
4. First State Crane	\$597,490.97
5. George & Lynch	\$638,649.00
6. R.E. Pierson Construction	\$785,699.00

The bid from Kuhn Construction was found



The template in place.

to be responsive which started another intricate process to move to contract award. Anticipating the award, Kuhn started moving equipment on site early and construction started on March 17th with the preparation for driving the steel sheet piling. As Kuhn was bringing the equipment in, one of the Foundation members was chatting with Kuhn's crane operator and indicated how anxious the Foundation was to get started. The crane operator's response was, "yeah, me too, I've been laid off for three months." (This was exactly the type of situation that the funds were designed to remedy.)

Prior to driving the sheet pile, Kuhn built a template with old steel beams to act as a guide to ensure proper placement of each piece of new steel. The sheet pile fabricated by Skyline Steel, a U.S. firm, arrived on March 29th and the first piece went in the ground on the next day in heavy rain and blustery winds. The weather was so bad that, after driving the first piece of sheet pile, Kuhn knocked off for the day. The following day, the weather was extremely favorable and remained so for the rest of the project. Work proceeded quickly and the construction was completed by the end of May.

Periodically during construction the ship had to be moved inside her old slip to facilitate construction of the new. This required members of the Dirty Hands Gang to handle the lines aboard as the ship was moved from side to side. However, with the construction of the slip, the gangway had to be removed curtailing access to the ship. So, whenever line handling was needed, Kuhn would put a crew aboard in a basket on the front of the big forklift.

One of the issues related to building the slip was bringing the two existing drain pipes in the after end of the slip through the bulkhead. An initial thought was to run the smaller pipe into the larger one before the bulkhead so that only the larger one would come through. Complications of joining the



Port side template used to guide the sheet pile.



Driving the first piece of sheet pile in a heavy rain.



After the first piece, it goes quickly.



The slip takes shape, port side view from the stern.

two outweighed the complications of a second hole in the bulkhead so the slip was built with the two pipes coming through the bulkhead independently as they had always been. As the larger (48 inch) pipe was seriously deteriorated, Kuhn replaced about a ten foot section, so the last ten feet (extending on through the bulkhead) is new. In the excavation related to these pipes and the installing of the deadman wall at the stern, Kuhn hit another drain pipe about 15 feet east of the 48 inch pipe. It was not apparent what function this other pipe served. It was traced back to a manhole cover near the basketball court but it didn't seem to be functional. A representative from the Lewes Board of Public Works came and declared that the pipe in question had indeed been abandoned and that it now served no purpose. The BPW representative gave Kuhn the authorization to crush the pipe to facilitate the installation of the deadman wall.

Surrounding the slip are a series of mooring bollards and chain posts with chain that runs between them. A key issue for future generations to keep in mind is that only the mooring bollards (with the four inch cross pipe at the top) are capable of holding the ship, the chain posts only fill in between bollards to hold the chain. Structurally, the mooring bollards are 23 feet long while the chain



Replacing the end of the 48" pipe.

posts are only eight feet long (not sufficiently deep in the ground to hold the ship). Specifications on these and other elements of the slip and grounds projects that are not obvious from surface observation may be important on future projects. If a project needs information such as location and depth of deadman walls, tieback rods, utility lines, etc. documents with the pertinent information are in the Foundation's files. Two sets of documents should have all necessary information: Duffield's final drawing and Rodney Robinson's layout plan dated May 19, 2010.

In addition to being decorative and providing a physical border between the land and water, the chains between the bollards and chain posts are part of the ship's security. The Foundation wanted a mechanism to stop a person intent on malicious mischief from slipping the ships lines off of the bollards and watching the ship float away. Given the chains are over the lines, the chains would have to be removed to slip the lines. The chains are held to the posts with shackles but the shackles have LockTight on the threads so that a hefty wrench would be required to remove a shackle. While it is still possible to do that, typically the casual mischief maker operates on impulse and does not carry a hefty wrench.



*Left: View from the bow, note the tieback rods and mooring piles.
Right: Line handlers being put aboard with forklift.*

VIII. LANDSCAPE THE GROUNDS

Understanding that Kuhn would leave the grounds looking like a construction site, the Foundation started planning for beautifying the grounds even before ship construction started. To assist in this process, the Foundation acquired the services of Rodney Robinson Landscape Architects, Inc. With meetings to get input from the Foundation, Rodney Robinson developed a planned layout for the site. The plan went through several iterations to get concurrence from the Foundation's neighbors (Lewes Historical Society, Lewes Little League and the City) and was approved by the Foundation's Board of Directors. The plan included doubling the size of the Ship's Store and adding a pavilion ell off of the extension toward the ship. The Foundation was informed by City officials that adding to the building was a controversial issue, especially as the City was developing a new zoning code. Based on that information, the Ship's Store additions were removed from the plan. On May 10, 2010, the City Council approved the landscaping plan.



Jake Mocci painting the prop.

The Foundation used the approved plan to solicit landscaping bids from qualified contractors. A sense of urgency to complete the landscaping as soon as possible made an immediate start on the landscaping a requirement to bid on this phase of the project. This limited the number of proposals received to three. The winning proposal was from Clean Cut Interlocking Pavers, LLC at a cost of \$151,894. The Foundation signed the contract on June 21, 2010, and Clean Cut started work the next day.

In addition to excluding the improvements to the Ship's Store, there were other alterations from the landscaping plan. There were two major differences. First, the Delaware Maritime Hall of Fame wall was removed and that function was satisfied by a smaller polished black granite monument in the center of the compass rose on the starboard side of the ship. The new Hall of Fame monument will have the inductees names engraved on the sides where there is sufficient space to last more than 25 years. The ship's propeller was then moved from the intersection of the two walkways to a location closer to the stern of the ship in the space freed up by deleting the wall. The decision to replace the wall was based on cost as it alone would have been \$60,000 raising Clean Cut's bid price to over \$210,000. However, after it was in place, there was a strong feeling that the new Hall of Fame monument was a better solution than the original wall regardless of price. Second, the wall in the Area of Recognition near the gangway on the port side of the ship was



Cutting the stone for the compass rose.

reconfigured. Rather than making it curved and convex (from the perspective of standing in front of it) it was made with three straight segments bending the other way. This change created a small “patio” affect for the bricks in the deck honoring the purchasers of rivets and portholes.⁵

The project to display the ship’s propeller was taken on by Jake Mocci, a local Boy Scout, as a step toward earning his Eagle Scout rank. The result was a marvelous display that was very much in keeping with the overall motif of the grounds, plus it was done with a solid foundation which will last indefinitely. As initially mounted, the propeller would turn fairly easily on its mounting shaft. Fearing that children might play on the

display and that the turning prop could injure someone, it was tack welded to the stand to immobilize it.

Issues which had long been discussed were the gangway, access to the ship and related security. Historically, the access had been over a homemade gangway attached to the ship that rested on a timber pier. Security was achieved by an eight foot chain link fence around the pier with a locking gate. While effective, it was very unattractive plus that same approach would not be possible with the new bulkheaded slip, as the slip width made any intrusion into the slip unacceptable. Many approaches for the replacement were considered. A favorite over an extended period of time was to create a “draw bridge” hinged on the ship that could be operated from either the ship or the Ship’s Store. However, with examination of implementation details, this approach became more and more unmanageable. Discussions with several manufacturers of gangways convinced the Foundation that a standard gangway attached to the ship with swivel rollers on the other end and a low (the height of the handrails) gate for security was far superior. While a person could easily go over the gate, no system could stop a determined intruder



Delaware Maritime Hall of Fame monument.



Area of Recognition on the port side near the gangway.

⁵ Landscape plan modified as mentioned in text. See Addendum.



The ship lighted at twilight.

from going aboard the ship. A key element in this approach was that it was “standard industry practice” and, as such, is recognized by insurance companies as the norm. Anything outside of the norm, even though it may be arguably better, could put the Foundation at serious risk. The Foundation followed this advice and on July 13, 2010, ordered the gangway from Ravens Marine in Kissimmee, FL for a cost of \$3446.00 plus shipping.

The early stages of the landscaping showed limited visual progress as the initial work concentrated on such items as burying irrigation piping and electrical wires as well as creating foundations for structures. By late July more visible developments like laying sod and building the compass rose started to happen.

The bronze plaques for the wall in the Area of Recognition and the monument for the Delaware Maritime Hall of Fame were separate from the

landscaping contract. A contract for \$20,015 to fabricate and install these was awarded to Lloyd Memorials in Millsboro, Delaware. The engraved bricks for the deck in the Area of Recognition, honoring the purchasers of rivets and portholes, were included in the Clean Cut contract.

The original plan specified six flood lights on the starboard side to illuminate the ship in the evening hours. Two of these lights were damaged in shipment and returned. The four remaining, when installed, provided adequate lighting so the other two were canceled.

By late August, the landscaping work was completed with the exception of planting trees and shrubs which would wait until fall when they would have a better chance of survival in the growing cycle. Then the Foundation let Mother Nature take her course allowing the sod to take root so the grounds could withstand the foot traffic associated with the park setting.

IX. CELEBRATE THE ACCOMPLISHMENT

Planning for OverfallsFEST to celebrate the accomplishment started early in the spring of 2010. Given Merrill Kaegi had started the process eleven years earlier, she was asked to chair the event to cap it off. In addition to having a great party she and her committee attempted to reach all of the individuals, businesses, governmental officials, foundation executives and people who had a hand in bringing the project to closure. The intent was to have as many of them as possible at the celebration.

The date for OverfallsFEST was set as

September 10, 2010, as the second Friday in September is traditionally the Overfalls fall party day. As the day approached, everything looked its best and the sod was rooted sufficiently to withstand the traffic of the partygoers. The day before three tents went up over in the event area on the starboard side of the ship.

THE PERFECT ENDING TO THE PERFECT DAY AND THE PERFECT PROJECT!

The day of the party started perfectly and

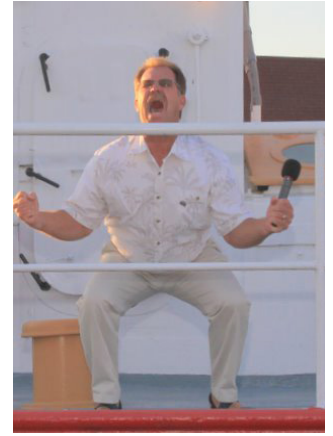


A good crowd enjoyed a great party

improved as the day went on. The weather was ideal, the grounds were pristine and the ship sparkled. Everybody had high expectations for this one and their expectations were exceeded. The program had adequate “pomp and circumstance” with ringing of the ship’s bell and drum rolls between speakers. Bill Reader reviewed the restoration and the Dirty Hands Gang’s role and Mayor Jim Ford set the project in the overall context of the City complete with a celebratory war whoop at the end. Elaine Simmerman was joined by the crowd as she offered a toast to the successful completion of the project. Finally, Richard Perez, who had brought a wagon load of Lyle guns, fired the final salute which may have frightened a few of the diners at Irish Eyes across the canal. It was clearly a happy ending of a great day and the successful ending of what started as an impossible project.



Left: Bill Reader recaps the story of the project.



Right: Mayor Ford ends his remarks with an enthusiastic war whoop.



Elaine Simmerman offers a toast to a successful project.



The Lyle guns fire the final salute.



The flags fly over a happy ship.

EPILOGUE (2011)

The party, OverfallsFest, on September 10, 2010 was indeed a gala event as described previously. While it capped off the long project, it did not end the activity. Maintenance and periodic enhancements will go on forever; the year 2011 was no exception. In addition, there were some follow on activities that were needed to truly bring the project to closure. A few of the major ones are listed below.

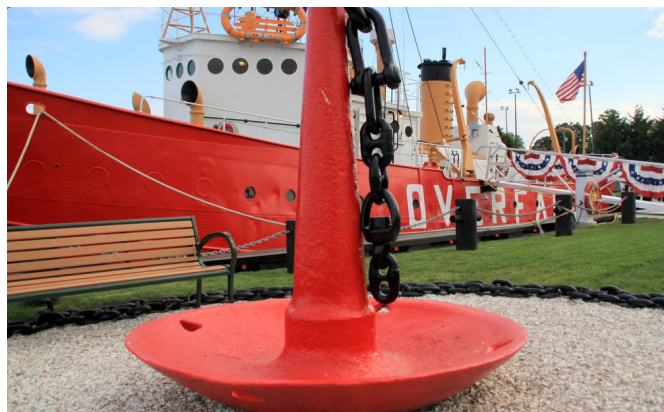
To ensure that the ship looked her best for the 2010 OverfallsFest, the Dirty Hands Gang gave her a fresh coat of red paint late in the summer. The effect was perfect; the ship literally sparkled. However, by October, the paint job started to show problems. At first, it looked like there were spots that the painters missed. As the fall wore on those spots became larger and more pronounced, especially in areas that received direct sun. By spring, there were areas on the starboard side that had faded to a pale pink. The paint supplier acknowledged that the paint was bad and offered to replace it at no cost to the Foundation. Rather than accept the new paint, the Foundation discussed the problem with Mike Cassidy, the



Volunteers working to create wetlands area.

painting contractor who had furnished the aerial lift for previous paint jobs. He recommended a two part epoxy paint which he had used on a water tower and, after seven years in service, it was holding up well. His recommendation was taken. The paint was difficult to apply as, once mixed, it had a short pot life and obnoxious fumes but the results easily surpassed anything that the Foundation had used previously.

“LIGHTSHIPS SHOULDN'T BE PINK.”



The main body of this document mentioned that in order to acquire the permit to build the slip, the Foundation was obligated to create 6032 square feet of wetlands to mitigate the wetlands that were filled. The City provided a site near the University which had access to tidal water and Evelyn Maurmeyer with Coastal & Estuarine Research, Inc. did the design and arranged the permits. With the arrangements complete, Joe Mocci, a local excavation contractor, cleared



Memorial Walkway.

and excavated the site in a manner that it would flood at high tide and drain at low tide. The Foundation volunteers then planted 2300 spartina grass plants in the wet area and an additional 64 shrubs in the upland buffer area. The total cost for the mitigation project including permitting, site work, plants and associated material was \$21,581. The Foundation is further obligated to make sure that the wetlands created remain viable until the summer of 2014. This was a most significant expense but the only way to have the ship's grounds nicely landscaped; it was well worth the expense.

This was the year that the Foundation took formal steps to recognize its members who have passed away. On September 9th, the walking path leading aft from the gangway was formally designated as the Memorial Walkway with an inscribed brick for each passed member. A large, sandstone block at the beginning of the walkway

is inscribed:

Bricks in this walkway honor members of the Overfalls Foundation who have crossed the bar. Through their efforts and contributions they have saved and preserved the Lightship Overfalls, as well as promoted other aspects of the Foundation's mission. While they have left us in body, their legacy remains to benefit generations to come.

A MARITIME NATIONAL HISTORIC LANDMARK

The crown jewel of 2011 was that on June 14th the U.S. Secretary of Interior designated the Lightship Overfalls a National Historic Landmark. This was a quest that the Foundation had pursued for over six years. The ship had been previously listed in the National Register of Historic Places indicating its local historical



Senator Carper unveiling the National Historic Landmark plaque.

significance. The Landmark designation indicates a national significance and makes it one of 2500 in the country as opposed to one of 75,000. The designation makes the ship the first National Historic Landmark in Sussex County and the only one in the State with a maritime orientation; the other 12 are all buildings and/or places. On September 26th, the Foundation hosted a major event on the grounds where Senator Thomas Carper unveiled the bronze plaque commemorating the designation. In addition to the NHL designation, the Lewes Historical Society

presented the Foundation a bronze plaque for "Excellence in Historic Preservation".

All of the accomplishments of 2011, like the accomplishments of the previous 12 years were due to the exceptional efforts of the Foundation's volunteers. That is the same effort that will sustain the Foundation and the Lightship Overfalls on into the future. A very conservative estimate of the volunteer hours expended in the Foundation from 1999-2011 exceeds 85,000. With that kind of effort and dedication combined with the magic in the old red ship, anything is possible!

“GOOD PEOPLE CAN DO GREAT THINGS!”

LIGHTSHIP LV-118 OVERFALLS

HAS BEEN DESIGNATED A

NATIONAL HISTORIC LANDMARK

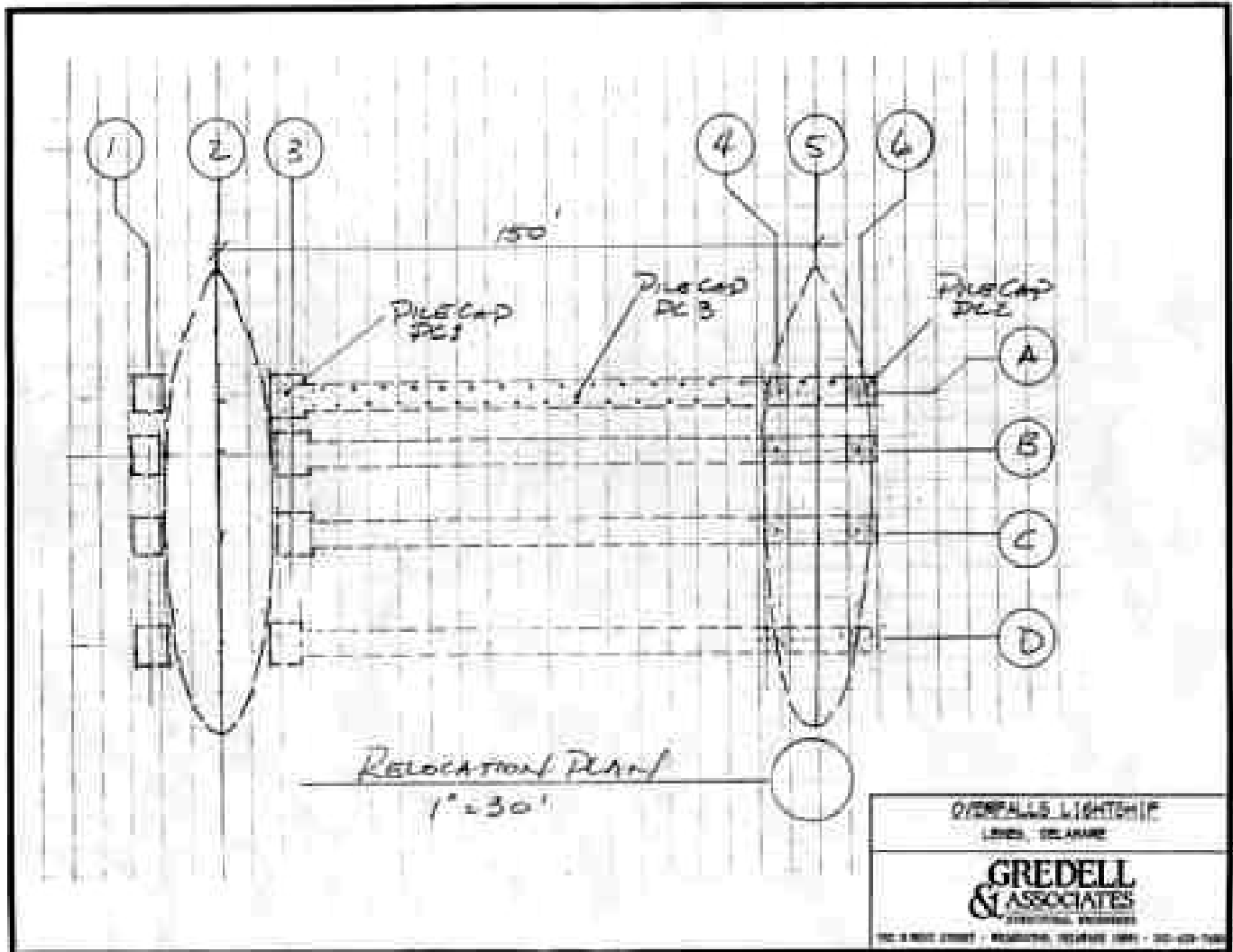
THIS VESSEL POSSESSES NATIONAL SIGNIFICANCE
IN COMMEMORATING THE HISTORY OF
THE UNITED STATES OF AMERICA.

USED FROM 1820 TO 1983, LIGHTSHIPS MARKED
TREACHEROUS AREAS FOR MARINERS WHERE
LIGHTHOUSES COULD NOT BE BUILT. LV-118 IS THE
LAST LIGHTSHIP (BUILT IN 1938) FOR THE U. S.
LIGHTHOUSE SERVICE AND ONE OF THE BEST
PRESERVED OF THE SURVIVING LIGHTSHIPS.

NATIONAL PARK SERVICE
UNITED STATES DEPARTMENT OF THE INTERIOR

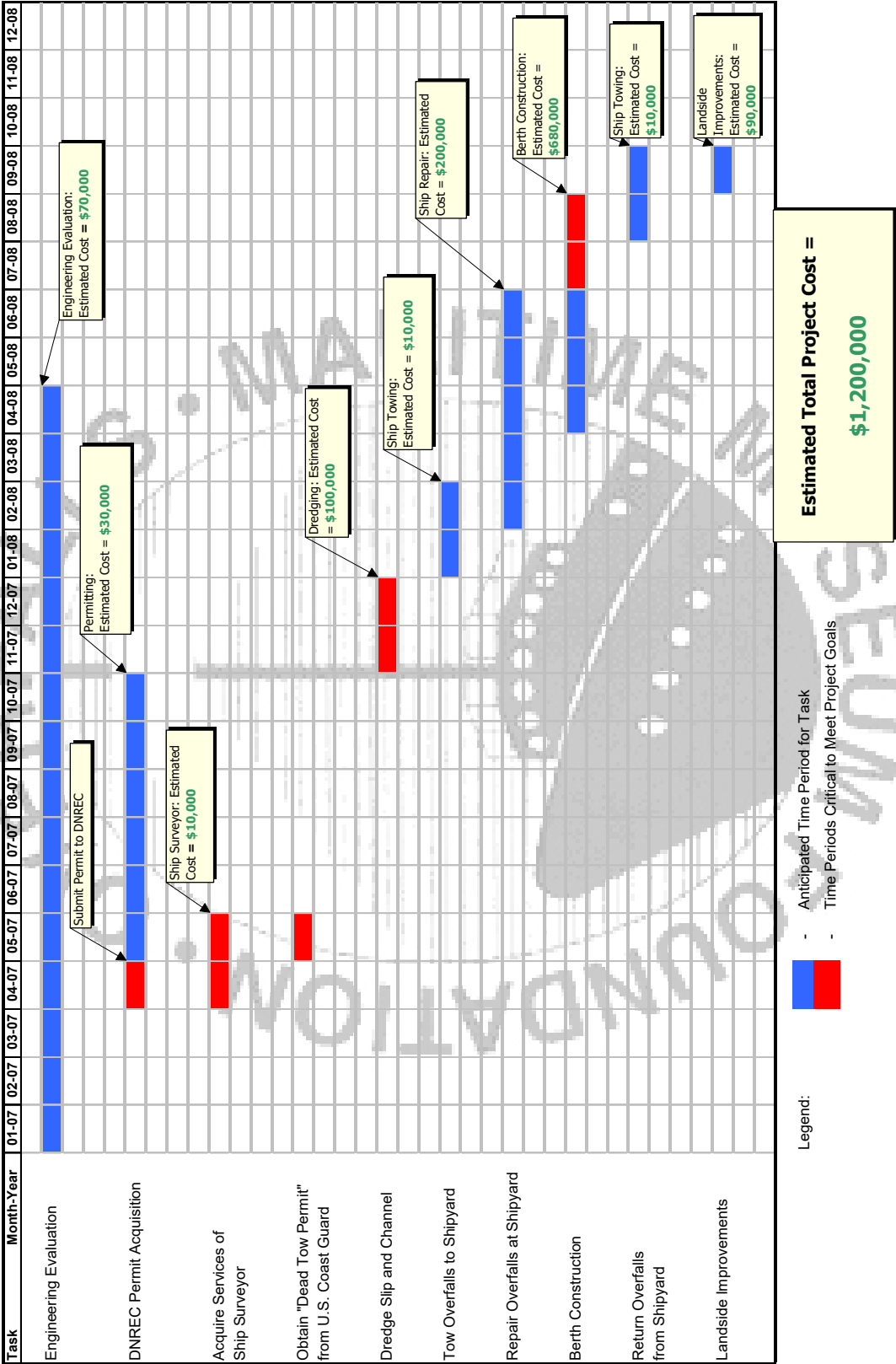
DEDICATION 2011

ADDENDUM 1



ADDENDUM 2

OVERFALLS LIGHTSHIP RESTORATION PROJECT
PRELIMINARY SCHEDULE AND BUDGET ESTIMATE

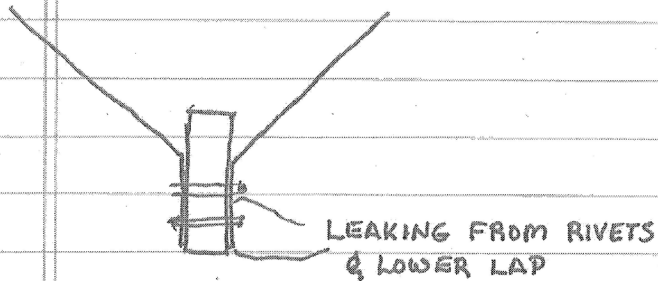


Duffield Associates, Inc.
April 2007

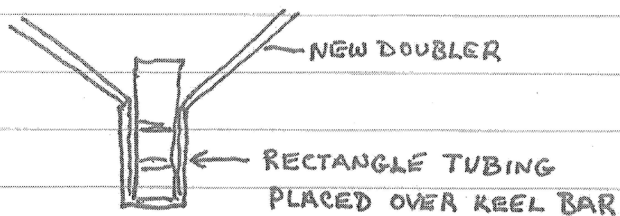
ADDENDUM 3

Item #	Item Description	Current Price
1	Drydocking	
a.	Provide labor & material to block & haul vessel. Upon completion of repairs, relaunch vessel.	\$7,216
b.	Provide laydays as required to accomplish repairs. 40 @ \$300/Day.	\$12,000
2	Services	
a.	Provide fire protection during repairs.	\$960
b.	Provide suitable gangway for access to vessel.	\$896
c.	Provide Marine Chemist to certify Vessel "Safe for Hot Work".	\$600
d.	Provide competent person to perform daily inspections as required to maintain Chemist Certificate. 40 @ \$75/Day.	\$3,000
3	Hull Repair	
a.	UHP water blast (40,000 psi) from keel to waterline as required to remove all growth and existing coatings.	\$18,880
b.	Dispose of red lead.	\$1,600
c.	Apply (1) coat of owner furnished primer.	\$1,120
d.	Install 5/16" owner furnished doubler plating from keel to waterline.	\$130,320
e.	Upon completion of welding accomplish a close up visual inspection of all welds.	Incl in 3.d
f.	Apply (2) coats of owner furnished paint on new doubler plating.	\$2,384
4	Storeroom Repair	
a.	Remove of concrete in the bidge area of the storeroom.	Cancel
b.	UHP water blast (40,000 psi) from keel to wing tank as required to remove existing red lead coating.	Cancel
5	Anchor Installation	
	Rig mushroom anchor into haute pipe and secure.	\$1,344
6	Ballast Removal	
a.	Remove and dispose of pigiron ballast in the engine room bidge.	Cancel
b.	Remove and dispose of pigiron ballast in the auxiliary engine room bidge.	Cancel
7	Propeller Removal	
	Remove the vessels propeller, pressure wash, and place on pallet for owners disposition. Seal stern tube to shaft with a welded plate.	\$3,312
	Modifications to Contract	
8	Provide & install (40) 22# bolt on anodes.	\$6,000
9	Revised Storeroom Repairs	
	Remove timber bracing	\$1,392
	Remove loose chain ballast	\$2,688
10	Prep 5000 psi wash & paint (2 coats) (20) wing tanks, shaft alley, and aft storeroom (O.F. Paint)	\$63,296
11	Apply sealer in ballast tanks IWO holes & rivets.	\$9,792
12	Keel to P/S shell plate water stop.	\$7,662
14	Reinstall timber bracing	\$1,392
15	Remove/ shaft alley ballast	\$2,672
16	Make upper mast portable via pin & sleeve. Blast and coat removed section of upper mast and rails.	\$1,504
16 a	Main mast stay cable & turnbuckle renewal. (material cost + 10%)	\$248
17	Remove chain ballast from Aft peak tank (approx 15 section and pig iron) and dispose. 5000 psi wash tank. Apply 2 coats of O.F. paint.	\$6,236
18	Additional docking & keel repairs	\$6,374
19	Mooring fees May 18 - May 22	\$625
20	Crane and rigging support for loading of equipment and stores required for return trip.	\$1,375
	TOTAL Orig Starting Value \$253,264	\$297,498

ADDENDUM 4

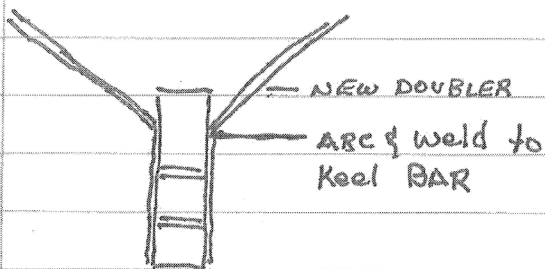


THE COST FOR SEALING FROM INSIDE
WOULD BE EXTENSIVE DUE TO ACCESS REQUIREMENTS

OPTION 1

GOOD REPAIR BUT PCS
WOULD HAVE TO BE
FIT BETWEEN KEEL
BLOCKS THEN VESSEL
FLEETED TO COMPLETE
INSTALLATION.

EST. COST +/- \$40 K

OPTION 2

AFTER NEW DOUBLERS
INSTALLED, ARC THRU
EXISTING PLATE TO
Keel bar & weld
Exist plate & new doublers
to keel. MAY REQUIRE
SOME FILLER BARS TO
FILL GAPS.

EST COST +/- \$8 K

ADDENDUM 5



RODNEY ROBINSON
LANDSCAPE ARCHITECTS, INC.
 30100 Road, Lafayette, LA 70508
 Tel: 337.281.1144 Fax: 337.281.1145

Project Name:

Lightship Overfalls

Lafayette, Louisiana

Sheet Title:

Lightship Overfalls

Landscape Plan

Drawn: AV/PJD

Checked: RBE

Scale: 1"=20'-0"

Date: 21 Sept 2009

Revision:

Date:

Sheet No:

L1.0

AWKNOWLEDGEMENTS

Throughout the entire project described in this document, the Overfalls Foundation has received tremendous support from many individuals, businesses and governmental organizations at all levels. The Foundation is grateful to all and a special thanks to those who played key roles in making the impossible project a reality. To document the story, the Foundation solicited and received support from those listed below.

- Jenna Reynolds from the State of Delaware's Division of Historical and Cultural Affairs started with rough draft and formatted the document giving it a professional appearance.
- The Delaware Tourism Office which tells the State's story to potential visitors and has helped promote the Foundation over many years was there again when called on.
- The Sussex County Council, through Councilwoman Joan Deaver, provided support to tell the story of the County's National Historic Landmark.
- Chesapeake Utilities, new to providing natural gas to the City of Lewes, was quick to take a part in documenting a significant happening in its new service area.
- Duffield Associates designed the project and provided engineering support to the Foundation throughout the entire process.
- Kuhn Construction took the Duffield design and built the new slip.
- Skyline Steel, as a supplier to Kuhn Construction, provided the U.S manufactured sheet pile for the bulkheading and the other associated steel materials for the slip.
- Rodney Robinson Landscape Architects developed the design of the grounds to set off the ship and integrate it with the adjacent Canalfont Park.
- Clean Cut Interlocking Pavers, LLC implemented the design of the grounds and has continually augmented it as new developments have come up.
- Lloyd Memorials provided the plaques for the Area of Recognition and the monument for the Delaware Maritime Hall of Fame which they update on an annual basis.



Delaware
Tourism

www.visitdelaware.com

Publication of this document funded in part by the Delaware Tourism Office.

In 1999, the Lightship Overfalls, encased in seven feet of mud, rusted away in Lewes, Delaware's harbor. Could she be saved? Anybody with any sense could see that she was too far gone and the resources just weren't available. That was when a small group rejected the conventional wisdom and attempted the impossible. Progress was slow at first but as the ship's appearance improved momentum built and community support kept pace. Thirteen years, over 85,000 volunteer hours and a capital expenditure of \$1.2 million later, she was designated a National Historic Landmark. Now the ship floats proudly in her slip as one of the icons of the town that prides itself on its special relationship with the sea. This document tells the story of how the impossible is merely a minor inconvenience to determined people on a mission.

